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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,468	10/15/2003	Edward A. Ramsden	M-15273 US	8863

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EXAMINER

WILLIAMS, HOWARD L

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/687,468

Applicant(s)

RAMSDEN, EDWARD A.

Examiner

Howard L. Williams

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-21 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim 3 is objected to because of the following informalities: The claim would read better to either delete the word "as" after "provide" (3 occurrences) or insert the word "it" before "as". Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

Claims 1, 2, 4, 5, 7-10, 17, 18, 20 and 21 are rejected under 35 U.S.C. 102(b) as anticipated by Kato et al. (US 4,454,500). Kato discloses an analog-to-digital converter (ADC) system which incorporates a comparison mode or threshold mode and a conversion or successive approximation mode. Accordingly, Kato discloses a multiplexer (300), a comparator (101), at least one successive approximation register (700), at least one threshold register (510) and at least one result comparison result register (524). Cycling logic to select the input terminal via multiplexer (300) is implemented via processor command and the address register (510) and address decoder (350). (claim 4). Cycling logic to control the selection of the threshold in the comparison mode or the value of the successive approximation register is under processor command which controls the bit line 635 that controls the selector switch (620).

Claim 19 is rejected under 35 U.S.C. 103(a) as obvious over Kato et al. (US 4,454,500). Kato does not show a sample and hold circuit. Use of a sample and hold in conjunction with an ADC is highly obvious and continues to be obvious to one of ordinary skill because it provides the converter with a stable value to convert.

Claims 6 and 11-16 are rejected under 35 U.S.C. 103(a) as obvious over Kato et al. (US 4,454,500) in view of Inuoe (US 5,760,721). Kato appears to


disclose but a single threshold register and single comparison result register. Inuoe discloses an ADC system to convert input signals in a desired order and allotting for a channel(s) having a higher priority, e.g. more important physical measurement to be monitored. The ADC system of Inuoe includes a plurality of memory locations on the ADC chip to store the results of the plural channels to reduce the requirement of an associated processor to service the ADC system to read the result at the completion of each conversion. Inuoe also discloses in figure 8d, in one of the control registers programmed by a command from the processor, a conversion mode and a comparison mode controlled by bit 8. As Inuoe teaches the use of plural memory locations on the ADC system to store the result in order to reduce the processor load, it would have been obvious to employ plural result registers in the conversion system of Kato to also reduce the processor load to check the result of each conversion or threshold comparison as taught by Inuoe in order to reduce the processor load.

Claim 3 would be allowable if rewritten to overcome the objection set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hellerman (US 3,153,142) discloses a monitor-converter system that provides a threshold test alone, a threshold test with subsequent conversion if the test condition is met or a conversion mode. Sanchez et al (USP 6,166,586) discloses use of an ADC to monitor temperature against plural thresholds.

Any inquiry concerning this communication should be directed to Howard L. Williams at telephone number 571-272-1815.

4/29/04


Howard L. Williams
Primary Examiner
Art Unit 2819